

Serial No. 10/725,359
60246-306
10766

IN THE SPECIFICATION

[15] Figures 4 and 5 illustrate one embodiment of the inventive coil 200 in more detail. Note that the structure in this coil 200 can apply to any bent coil configuration. In this embodiment, vertical fins 208 in the coil, such as aluminum vertical fins, guide air flow toward both the longitudinal and lateral directions, thereby reducing pressure losses normally associated with lateral flow. In the embodiment shown in Figure 4, the coil 200 includes two additional vertical fins 208 to direct air perpendicular to the coil surface. The vertical fins 208 supplement horizontal fins 209 to provide additional control over the outlet air flow. The outlet air flow is thus divided into the two lateral flow paths 206 and the front flow path 204. Of course, different numbers of fins 208 may be included to direct air in different ways depending on the coil geometry and the discharge air directions.

[17] As shown in Figure 5, the bent coil 200 also has a plurality of vertically-arranged tubes 210. These tubes 210 are aligned vertically and staggered horizontally with respect to each other, allowing air to flow between the tubes 210 and be exposed to the maximum amount of surface area of the tubes 210. Note that in traditional flat coils 104, the tubes in the coil tend to be aligned both horizontally and vertically when the coil 104 is disposed at an incline with respect to a ~~vertical~~ vertical axis in the duct 106. This allows air to flow past the tubes easily, but also causes tubes closer to the front of the coil 200 to lie directly in front of tubes closer to the back of the coil 200, thereby blocking much of the surface area of the tubes closer to the back. By keeping the coil vertical, the inventive bent coil 200 optimizes air distribution on the tubes 210 by taking full advantage of the staggering of tubes that prevent any one tube from falling within an aerodynamic shadow of another tube.